

pared to controls ( $48.5 \pm 6.2\%$ ), LF HRV was significantly reduced at D15 ( $31.6 \pm 5.4\%$ ) but not at D30 ( $58.2 \pm 16.2\%$ ) without change in HF. LF/HF ratio was lower in 6OH-DA treated mice at D15 ( $0.5 \pm 0.1$  vs  $1.3 \pm 0.2$  in controls) but not at D30 ( $1.6 \pm 0.3$ ). At D15, 6-OH-DA hearts exhibited mild structural abnormalities with wavy cardiomyocyte appearance in septum. At D30, histological abnormalities were diffuse with myocytes intersecting at various angles with bundles wavy appearance. Variability in cell size with anisocytosis, attenuated myocytes with perinuclear halo and shaped nuclei were observed. No inflammation, interstitial fibrosis or necrosis was noticed.

**In conclusion**, this study suggests that heart denervation induces myocardial tissue disorganization. Relationship between these changes and sympathetic nerve destruction and/or catecholamine depletion remains to be elucidated. Apart from physiological significance, these results also bring new structural basis to explain increased risk of cardiac disease during autonomic failure.

## 073

### Right Ventricle Contractile Reserve as a Pre-operative Tool for Assessing RV failure after Continuous Flow LVAD Implantation

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**Introduction:** Latest generation continuous flow left ventricular assist devices (LVADs) have been proposed as an alternative to heart transplantation for end-stage heart failure. However, postoperative right ventricle (RV) dysfunction remains common and has a negative impact on prognosis. Purpose of our study was to identify echocardiographic or hemodynamic parameters that could predict early RV failure after LVAD implantation in patients with biventricular dysfunction.

**Methods:** Fourteen patients with biventricular dysfunction who have been evaluated for LVAD implantation were included. Right and left ventricular dysfunction were respectively defined as: tricuspid annular plane excursion  $< 16$  mm (TAPSE) and LV ejection fraction  $< 35\%$ . In all patients, preoperative measurements were obtained at rest. In 7 patients, right heart catheterization was performed simultaneously with increasing doses of dobutamine ( $15\mu\text{g/Kg/min}$ ). Primary endpoint was death caused by right ventricle systolic dysfunction or need for right ventricle mechanical support within 30 days after surgery (RVSD+).

**Results:** Mean recipient age was  $58 \pm 7$  years. Primary end-point (RVSD+) was noted in five patients. Preoperative demographic, echocardiographic and hemodynamic data were similar between RVSD+ and RVSD- patients (Table). Percent increase of TAPSE and systolic PAP between basal and high dobutamine dose was significantly lower in RVSD+ than in RVSD- patients.

**Conclusion:** Percent increase of TAPSE and systolic PAP induced by high dose dobutamine infusion might be two interesting criteria to assess RV contractile reserve and predict RV outcome after LVAD implantation in patient with biventricular dysfunction.

	Baseline Measurement (n=14)			Change after Dobutamine infusion,% (n=7)		
	RVSD-	RVSD+	p	RVSD-	RVSD+	p
N	9	5		3	4	
TAPSE, mm	$14 \pm 2$	$14 \pm 2$	0.9	$55 \pm 5$	$26 \pm 2$	0.03
Systolic PAP, mmHg	$51 \pm 7$	$53 \pm 6$	0.8	$42 \pm 8$	$4 \pm 7$	0.05
Cardiac Output, l/min	$3.3 \pm 0.5$	$3.5 \pm 0.5$	0.9	$87 \pm 10$	$93 \pm 47$	0.7
Pulm Vasc Res, Wood	$3.9 \pm 1$	$4.3 \pm 1$	0.6	$2 \pm 41$	$-36 \pm 7$	0.8

## 074

### Is management of heart failure at hospital discharge differentiated according to the ejection fraction? Lessons from the DEVENIR study

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**Rationale:** Heart failure (HF) with preserved LVEF has been individualized in the recent years as a specific entity, with different mechanisms, special baseline characteristics, a poor prognosis and no clearly recognized treatment. Recent papers have focused on patients with LVEF between 40% and 50% who could not be clearly classified as patients with reduced or preserved LVEF. **Objectives:** to describe the management care of patients according to the LVEF with special emphasis on patients belonging to the "grey zone".

**Methods:** Cross sectional observational survey with retrospective collection of data at hospital discharge. Patients must have been diagnosed with HF and have been hospitalised for HF within the previous 18 months. Patients are classified according to the LVEF at hospital discharge. **Results:** 412 French outhospital cardiologists included 1 452 patients meeting the inclusion criteria. Management care at hospital discharge according to LVEF (known in 1 408 patients) is detailed below.

**Conclusion:** This is the first French survey in patients managed by cardiologists after hospital discharge for HF. Cardiologists mainly care for patients with low LVEF. Treatment at hospital discharge is optimal regarding medical classes, with poor differences according to EF. Rate of betablockers and ACEI is quite high in the group with EF  $> 50\%$ , even if it is lower than in the groups with low EF. As a whole, in France, the 40-50% group is managed as the  $< 40\%$  one.

**Table. Drug therapy according to LVEF**

	LVEF<40% n=792	LVEF 40-50 % n=366	LVEF>50% n=250	P
ACEI/ARB	91%	90%†	83%	0,002
Betablocker	78%	76%†	64%	<0,0001
Loop diuretics	90%	83%*	82%	<0,001
Spironolactone	29%	19%*	21%	0,0003
Digoxin	16%	15%	21%	0,15
Calcium antagonists	9%	18%†*	27%	<0,0001
Anticoagulants	43%	41%	43%	0,64

p by ANOVA with Bonferroni correction;

† p<0.05 for comparisons between "grey zone" and LVEF>50%;

\* p<0.05 for comparisons between "grey zone" and LVEF<40%.

## 075

### Echocardiographic Determinants of Diffusing Lung Capacity in Patients with Cardiovascular Disease

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**Background:** Alterations of diffusion lung carbon monoxide (DLco) and alveolar-capillary membrane gas conduction (Dm) are associated with poor prognosis in patients with heart failure (HF) or stable coronary artery disease (CAD) even when LV systolic function is preserved. However, the impact of LV function on diffusing lung capacity is poorly understood.

**Methods and Results:** Twelve healthy subjects were compared to 19 patients with stable HF and LV systolic dysfunction and to 12 patients with stable CAD and preserved LV systolic function. Diffusing lung capacity was assessed by DLco and Dm, using single breath technique and Roughton-For-